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The UN Security Council and Climate Change

Rising Seas Levels, Shrinking Resources, and the ‘Green Helmets’

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Executive Summary

This thesis examines climate change, the negative impacts of climate change, and the purview of the United Nations Security Council, in order to demonstrate that the effects of climate change on international peace and security render it an area that the Security Council should address. Climate change is defined, and the inequality inherent in the climate crisis is described. This history of the international debate on climate change is briefly outlined, and the inadequacies of attempts to date to establish effective international agreements on the reduction of green house gas emissions are outlined.

The extreme vulnerability of the Global South is outlined in detail, with specific reference to coastal regions, landlocked nations, urban areas, and Island States. The impacts of climate change are found to violate basic human rights recognized by the United Nations, including access to clean drinking water, recognized as a human right by the UN in 2010, and access to adequate housing, recognized in the UN Habitat Agenda. The vulnerability factors that characterize the urban areas of the Global South are identified as unchecked urbanization, rapid population growth, and inadequate infrastructure. When these factors are combined with the rapidly increasing impacts of climate change, such as rising sea levels, soil impermeability due to drought and deforestation, the risks to entire populations' access to essential resources is jeopardized. Violations of the rights of sovereign nations as established in the UN Charter are also found to be caused by climate change. In particular, Article 2, subsections 1, 2, and 4, which establish sovereignty, the right to self determination, and protection against threats of violence from other UN Member States, are all potentially violated by any action that directly contributes to climate change. Subsection 4 is most strongly violated by the threats of annihilation represented by rising sea levels.

The one-sided imposition of Western perspectives on climate change that ignore the Global South further exacerbate the effects of environmental transformations. The sustainable development discourse has been accused of progressing in a manner that veils attempts to impose top-down market systems that favour the Western world economically, while failing to achieve actual gains as regards the reduction of green house gas emissions. Involvement of the UN Security Council is therefore found to be necessary in order to achieve better coordination and a more balanced and representative interpretive approach to

resolving the climate issue, which poses serious risks as regards international peace and security. Considered a "threat multiplier", climate change has the potential to both escalate existing conflicts and to create new disputes over such resources as food, water, and arable land.

The permanent members of the Security Council - China, France, the Russian Federation, the United Kingdom and the United States – have now accepted that climate change threatens international peace and security. The Council must now use the resources at its disposal to fulfill its mandate to maintain international peace and security, develop friendly relations among nations, cooperate in solving international problems and promote respect for human rights. The passing of Security Council resolutions regarding the emission of green house gasses would be a more effective method of establishing internationally binding norms than the relatively unsuccessful negotiations and Accords that have been undertaken to date. The Council's intervention in violent conflicts may be also be necessary as international tension and instability resulting from the impacts of climate change increase. The main obstacle to effect action by the Security Council in this respect is found to be resistance from the United States and any other permanent member of the Security Council who may use their veto power to block effective action in respect of climate change.

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Introduction

"Climate change threatens virtually every aspect of our lives, from the food that we eat, the water we drink, and the energy with which we power our homes, offices, and hospitals. In many low-lying parts of the world, it threatens the very ground beneath our feet. It threatens our health, and the ocean on which all life depends. It threatens our families and generations to come".

(Associated Press, 2011).

Climate change is recognized at the international level (IPCC, 2007) as one of the most important and complicated challenges for 21st century society. Many aspects and areas of human life are affected by such changes. Agriculture, water resources, biodiversity, industry, health and cities, and the impacts of climate change will not be uniform around the world, rather considerable differences are anticipated according to region (McCarthy, Canziani, Leary, Dokken & White, 2001). The poorest nations, which contributed the least to green house gasses, are paradoxically the most vulnerable to climate change (Huq, Rahman, Konate, Sokona & Reid, 2003). For this reason, special funds have been created in order to help the poorest countries react to the causes and impacts of these changes.

The environmental debate begun in Rio in 1992 contained the theme of climate change, but the question of environmental transformations connected thereto has emerged only in the last decade, as the deadlines established in the Kyoto Protocol (1997) drew closer. The long debate on the relationship between urbanization, development and sustainability was therefore reoriented, with climate change as the central dimension of sustain-

ability, which reignited discussion of environmental justice and compensation between countries of the North and South.

The increase in the diffusion, severity and types of impacts of climate change on the international scale are now raising questions that extend beyond the simple determination of the specific causes of climate change, and many observers now view this issue as one of, and even the most serious threat to peace and international security of the contemporary era. Understanding of the impacts of climate change has improved in recent years. Natural disasters and intensifying environmental stress have prompted an increase in the signing of international conventions and agreements specifically related to climate change.

A “steady onslaught of droughts, floods and heat waves, which are expected to become even more frequent and intense with climate change, have displaced millions of people and led to widespread food shortages” (Stephen, 2011). Extreme flooding, tropical storms and drought have struck regions that in living memory had never seen such events. Variations in pluviometric regimes, humidity and air temperature have had clear impacts on biodiversity, ecosystems, human health and living strategies. The consequences are not restricted to the regions that have been directly hit. This flood can be measured at the mouth of the hydrographic system, where the largest urban agglomerations have developed. It generates disease, empties markets that are normally supplied with agropastoral products from the inland, and creates "environmental refugees" (Macchi, 2012). “The changes have already heightened competition over scarce resources, and could foreshadow life in a world where conflicts are increasingly driven by environmental catastrophes” (Stephen, 2011).

Climate change therefore has transregional, sometimes even transborder impacts, as is the case in the Horn of Africa. Transcontinental impacts are also on the rise: climate

changes in Africa influence those in Europe, and "climate refugees" are moving from one continent to another. Large coastal cities are often directly hit by extreme events and environmental stress, with economic and political consequences at the national level. While the devastating impacts may be immediate, the damages are revealed over time. The population declines into poverty, given their dependence on natural resources that are increasingly unavailable and difficult to manage.

Although attention has recently been directed towards cities, the most detailed analyses have demonstrated how little information we have upon which to base early warning systems, identify high-risk zones, determine the relation between climate change and urban poverty, and formulate and enact action plans. The question is now being posed as to whether and to what extent the United Nations Security Council should assume a role in deciding matters of climate change. This study seeks to respond to two main questions:

1) Should the UN Security Council accept that climate change is a matter of peace and international security?
2) Should the Council accept climate change as part of its purview?

In order to answer these questions, the issue of climate change is examined from several perspectives. First, a working definition of climate change, based on prevailing international instruments, and an overview of the evolution of the international debate on climate change are provided. The complications introduced by the unequal relationship between the main contributors to climate change (developed nations) and those most negatively impacted by climate change (least developed and developing nations) are also discussed.

In Chapter 2, Climate Change is assessed in terms of the threats that it poses to international security, understood to include food security, access to clean drinking water,

and the destabilizing effect that lack of the foregoing can have in terms of international peace. Chapter 3 examines the existing mandate and purview of the UNSC, and demonstrates how inherent threats posed by climate change place it within the UNSC's purview. The mechanisms for doing so are explored, and reforms to the structure of the UNSC that would facilitate effective action to prevent and mitigate the effects of climate change are also proposed.

1 The Basics of Climate Change

1.1 Climate Change Defined

According to the UNFCCC, climate change refers to the changes directly or indirectly attributable to anthropic activity that alter global atmospheric composition and influence the natural climate variability observed over comparable periods. On the other hand, Working Group II of the IPCC uses the term climate change in reference to any change in climate over time, resulting from both natural variability and anthropic activity (IPCC, 2011: 21). From this perspective, the climate change currently being observed is the combined result of processes that generate changes in the concentration of green house gasses (GHGs)[1] and aerosol in the atmosphere, solar radiation and land surface characteristics (land and land cover). According to the IPCC Fourth Assessment Report (2007) it is unequivocal that the earth has increased in temperature by 0.74°C since 1900 due to an increase in GHGs, which increased by 70% between 1970 and 2004. This increase could trigger changes on an even larger scale over the next few decades, with elevated and non-linear impacts, possibly consistent across physical and biological systems and potentially irreversible.

[1] The work of the IPCC is divided between three Working Groups, a Task Force and a Task Group. The activities that each Working Group and the Task Force undertake are coordinated and administered by Technical Support Units. The IPCC Working Group II (WG II) assesses the vulnerability to climate change of socio-economic and natural systems, the negative and positive consequences of climate change and adaptation options. It also considers the correlation between vulnerability, adaptation and sustainable development. The assessment of information is conducted according to sector (water resources, ecosystems, food and forests, coastal systems, industry, and human health) and regions (Africa, Asia, Australia and New Zealand, Europe, Latin America, North America, polar regions, and small islands).

1.2 The Evolution of the International Debate on Climate Change

In Geneva, 1979, the First World Climate Conference indicated climate change as an absolutely urgent problem at the global level, calling on governments to anticipate and pay attention to climate risks. At that time, the Global Climate Programme was started, guided by the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP) and the International Council for Scientific Unions (ICSU). A variety of intergovernmental conferences on climate change followed, and in 1988, in Toronto, 46 countries participated in the Conference on the Changing Atmosphere, from which the necessity to develop a convention framework in order to protect the atmosphere emerged. The WMO and UNEP thus founded the Intergovernmental Panel on Climate Change (IPCC) in order to evaluate the totality and the speed of changes, their impact, and strategies for addressing them.

The First Assessment Report of the Panel was published in 1990, with important repercussions for political decision-makers and public opinion. In the same year, the Second World Climate Conference was held, which established an Intergovernmental Negotiating Committee to draft a framework convention on climate change. At the Rio Conference in 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was presented and ratified, which established an action framework aimed at stabilizing atmospheric concentrations of green house gasses in order to avoid “dangerous anthropogenic interferences” with the climate system. The convention was not originally legally binding on the nations that had ratified, since it did not impose mandatory limits on the emission of green house gas. However, it did include updating provisions (referred to as

"protocols") that could impose mandatory limits on emissions, the most important of which is the Kyoto protocol (COP[2] 3, 1997). Two parallel and complementary strategies were formulated to mitigate the impacts of environmental transformations linked to climate change (adaptation) and to address the causes of that change by reducing the green house gas emissions that cause global warming (mitigation).

The most recent Conferences of the Parties have sought to orient funds and programs for adaptation and mitigation not to the production of new ad hoc instruments (plans and projects) but to the integration of measures and strategies into development processes in low- and medium-income countries, and into the planning and management of cities (adaptation mainstreaming). With the Kyoto protocol, which came into effect in February, 2005, industrialized countries and those in transition to a market economy (192 parties) committed to reaching the objective of reducing emissions by 5.2% with respect to the 1990 level during 2008-2012 (the first period), with specific objectives that varied from country to country (Annex I of the UNFCCC). In 2005, the COP 11 and COP/MOP[3] 1, held in Montreal, established the Ad Hoc Working Group for the Kyoto Protocol (AWG-KP) to work on further efforts by the adhering parties to the Kyoto protocol on the basis of Article 3.9. Countries agreed to consider long-term cooperation on the Convention through a series of four workshops known as the Convention Dialogue, which continued until COP 13.

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[2] The Conference of Parties (COP) is the highest decision-making authority of the UNFCCC, and all countries that adhere to the Framework Convention are members thereof. The COP is responsible for international efforts to address climate change, for examining the application of the Convention and the engagement of the Parties in light of Convention objectives, new scientific knowledge and acquired experience in implementation of climate policies. The COP meets only once per year. The work of the COP is supported by two subsidiary organs: the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI).

[3] Conference of the Parties acting as a Meeting of the Parties for the Kyoto Protocol.

In Bali, 2007, the COP 13 and the COP/MOP 3 led to the adoption of the Bali Action Plan (BAP), which created the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) with the goal of concentrating on the key elements of long-term cooperation identified during the Convention Dialogue: mitigation, adaptation, finance and technology transfer. The Bali conference was translated into an accord on biennial process, the Bali Roadmap, which established two sets of negotiations pursuant to the Convention and the Protocol, and established deadlines for the conclusion of those negotiations at the COP 15 and COP/MOP 5, which would be help in Copenhagen in 2009.

In Bali, the question of adaptation emerged in a relevant manner for the first time, with emphasis on the needs of the countries most vulnerable to the negative effects of climate change. The adaptation issue reached a level of importance equal to that of mitigation, and the inextricable link between the two was recognized. The level of mitigation determines the level of temperature increase, and therefore the totality of climate change and the need to adapt thereto.

In 2008 and 2009, two AWGs held four parallel negotiation sessions (Bangkok, Bonn, Accra and Poznan in 2008; Bonn, Bangkok, Barcelona and Copenhagen, in 2009). The goal of these meetings was to move forward with negotiations to reach an agreement on long-term cooperation in the COP 15 and COP/MOP 5 in Copenhagen. The conference in Copenhagen was marked by disputes over transparency of the decision-making process. An informal negotiating process between the most important economic actors had led to the political agreement known as the Copenhagen Accord. The Accord was also presented at the plenary session of the conference, and attendees were divided between those who supported it as a step forward for a better future, and those who held the negotiations hostage

with complaints of a lack of transparency and democracy in the process. In the end, the COP 15 agreed to "take note" of the Copenhagen Accord and established a process through which the Parties could express their support for the Accord. To date, more than 140 countries have expressed their support, and 80 countries have provided information on the objectives of reducing emissions and mitigation actions.

In Copenhagen, the decision was also made to extend the mandate to working groups on the Convention and the Protocol (AWG-LCA and AWG-KP), asking them to present their respective results at the subsequent COP 16 and COP/MOP 6, in Cancun, 2010. Many hoped that Cancun would be able to produce significant progress on several key questions, but the results were modest and legally non-binding. Negotiations on themes such as mitigation, adaptation, finance, technology, reducing emissions from deforestation and forest degradation in developing countries (REDD+), monitoring, reporting and verification (MRV), and international consultation and analysis (ICA), led to the drafting of the "Cancun Accords", about which there are contrasting opinions and some opposition. The majority of participants recognized that it represented a relatively small step forward in the struggle against climate change. In addition to the Cancun Accords, 20 decisions on other issues were adopted that range from capacity building to administrative, institutional and financial issues.

1.3 Climate Change and Inequality

Emissions of carbon monoxide, the most important anthropic green house gas, are predominantly due to the use of combustible fossil fuels, and secondarily to land use. They are therefore connected to the sectors of energy production, transport, industry, land use and changes in land use, and forest management. Related to these sectors, and in particular to energy consumption, are population growth and per capita income, which between 1970 and 2004 rose by 69% and 77% respectively. The discrepancy in the contributions of low-income and high-income countries (Figure 3.1) to the production of green house gas is therefore clear. The production of green house gas is also highly differentiated at the national level, and in this respect the role of cities is widely debated. Many authors assert cities are the main contributors to green house gasses, and even more so as regards high-income cities (Satterthwaite, 2008; Romero-Lankao, 2007; Dodman, 2009). Nevertheless, in the determination of the spatial differences in emissions, identification of area of attribution is fundamental, and this often does not correspond to administrative (municipalities, metropolitan areas, areas of continued construction) or functional boundaries (city-region) (Davoudi, Crawford & Mehmood, 2009). The main sources of green house gas (energy production stations, garbage dumps, big industry, large transportation hubs) are often outside urban limits, and even if they are not directly attributed to the city, they are probably linked to systems of urban consumption. For this reason, some authors (Satterthwaite, 2008) highlight that emissions of anthropic origin are linked to the consumption models of medium- to high-income groups, and it is therefore necessary to address these in order to implement mitigation strategies.

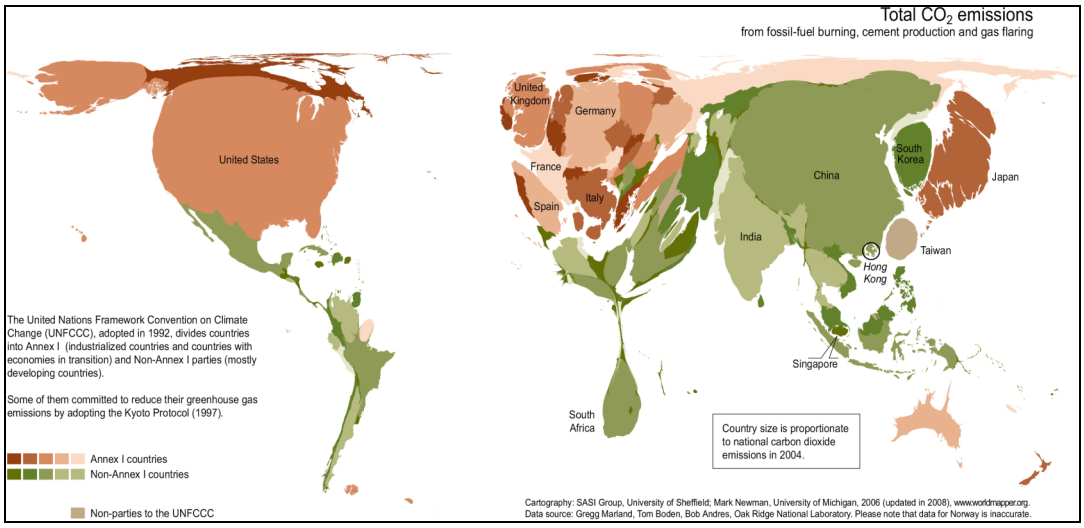

Figure 1 - Map of CO2 emissions (Source: SASI Group, University of Sheffield; Mark Newman, University of Michigan, 2006 (updated in 2008), www.worldmapper.org. Source of data: Greg Marland, Tom Boden and Bob Andres, Oak Ridge National Laboratory).

1.4 Climate Change in Least Developed Countries

While the first COP in 1995 addressed the issue of financing adaptation (decision 11/CP.1), it was only with the Marrakesh Accords of 2001 that adaptation received greater consideration (decision 5/CP.7). The international community recognized the vulnerability to climate change of Least Developed Countries (LDCs[4]) and their limited adaptive capacity, and as a result the UNFCCC differentiated roles and responsibilities between the Parties to a greater extent than was done regarding mitigation. The convention distinguishes between developed countries, developing countries and least developed countries, between vulnerable and particularly vulnerable, and between industrialized countries and those in

[4] Article 4.9 of the UNFCCC recognizes the unique situations of Least Developed Countries (LDCs) and asserts "The Parties shall take full account of the specific needs and special situations of the Least Developed Countries in their actions with regard to funding and transfer of technology".

economic transition. The convention also distinguishes between countries with different physical characteristics, highlighting the specificity of the needs of small islands, low-lying coastal areas and countries with fragile ecosystems. This differentiation is used to attribute different responsibilities to various groups.

Article 4 of the UNFCCC establishes that countries included in Annex II of Annex I (industrialized) in addition to undertaking mitigation measures, must also provide financing to help developing countries adapt to climate change. This took on particular importance following the Marrakesh Accords (COP 7, 2001), which established the Least Developed Countries Fund (LDCF) managed by the Global Environmental Facility[5] (GEF). The fund is intended to respond to the specific needs of LDCs, including the drafting and implementation of National Adaptation Programmes of Action (NAPAs)[6], whose purpose is to identify the priority needs of each of the Least Developed Countries according to specific guidelines provided by an expert ad hoc group (Least Developed Countries Expert Group – LEG).

After the publication of the IPCC Third Assessment Report in 2003 at the COP 9, the Subsidiary Body for Scientific and Technological Advice (SBSTA) was given the task

[5] Based on the provisions of the UNFCCC, the GEF manages three funds: the GEF Trust Fund, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). Further financing opportunities for adaptation projects in LDCs include the Adaptation Fund provided in the Kyoto Protocol, funds deriving from Multilateral Environmental Agreements (MEAs) and multilateral or bilateral funds from governments, organizations and national or international agencies. The GEF Trust Fund and its Strategic Priority for Adaptation (SPA) supports pilot projects and demonstrative activities that address adaptation while also generating environmental benefits. The purpose of the COP in terms of the GEF's support for adaptation identifies three phases. The first phase provides support to the national communication process, which includes assessment of vulnerability and adaptation. The second phase provides further assistance for other adaptive capacity building actions. The third phase concerns support for adaptation activities, including insurance.

[6] In order to address the most urgent issues, the UNFCCC established that LDCs should develop NAPAs that, recognizing current adaptive strategies at the local level, identify priority adaptation activities that can be implemented with the support of the LDC Fund.

of working on the scientific, technical and socio-economic aspects of vulnerability and adaptation to climate change (decision 10/CP.9). The following year, the Buenos Aires Programme of Work on Adaptation and Response Measures (decision 1/CP.10) was created, which established two complementary routes for adaptation: the development of a 5-year work plan on the scientific, technical and socio-economic aspects of vulnerability and adaptation to climate change and improvement of information and methodologies; and the implementation of concrete adaptation actions, technology transfer and capacity building. At the COP 12, a preliminary list was compiled of activities to undertake during the 5-year period of the work plan, known as the Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change, and the Adaptation Fund, established by the Kyoto Protocol, was modified. The IPCC Fourth Assessment Report and Working Group II's results as regards impacts, adaptation and vulnerability indicate that hundreds of millions of people will be exposed to an increase in stress on water supply, that millions of people will be exposed to flooding each year, and that access to food will be seriously compromised in many African countries, emphasizing that adaptation will be necessary but that many impacts can be avoided or delayed through mitigation.

We have seen how the Bali Acton Plan, adopted at the COP 13 (2007), identifies adaptation as one of the key components for strengthening future responses to climate change, and for allowing full, effective and lasting implementation of the convention through long-term cooperation up to 2012 and beyond. In the subsequent Copenhagen Accord (2009), institutional representatives (heads of state, heads of government, ministers and other delegation leaders) highlighted the need to establish a global adaptation program. The signatories agreed that the development of actions and international cooperation on

adaptation were urgent and that developed countries must provide adequate, predictable and sustainable financial resources, technology, and capacity building in order to support the implementation of adaptation intervention in developing countries. Financing for adaptation would be assigned first to developing countries, such as LDCs, Small Island Developing States (SIDSs) and Africa.

In Cancun, 2010, a new Cancun Adaptation Framework was established and a Green Climate Fund was created in order to allow for better planning and implementation of adaptation projects in developing countries through an increase in financial and technical support, as well as the definition of a process for continuing to work on "loss" and "damage"[7]. The implementation of adaptation in LDCs is therefore linked, on one hand, to financial and technological support and capacity building, and to the development of NAPAs and their implementation through local adaptation plans.

1.5 Summary

Climate change is defined as the results of natural or anthropic activities that are causing global temperature increase, which in turn results in a series of other impacts on the environment and humans, and is largely attributable to the emission of green house gasses. The UN and the international scientific community agree that GHGs in the atmosphere have increased by 70% since 1970, and as a result the earth has increased in temperature by 0.74°C since 1900. Emissions of carbon monoxide, the most important anthropic green

[7] "Through increased financial and technical support, including a clear process for continuing work on loss and damage" (IIED, 2010).

house gas, are predominantly due to the use of combustible fossil fuels, and are closely related to energy production, transportation, industry, land use and changes in land use, and forest management. Population growth and per capita income are also directly correlated to green house gas emissions, thus the discrepancy between the contributions of low-income and high-income countries to the production of green house gas is clear. Since anthropic emissions are linked to the consumption models of medium- to high-income groups, and it is therefore necessary to address the inequality of the climate crisis.

Recognition of climate change and the imminent threats that it poses to the international community has undergone a process of evolution over the last 40 years. The problem was first recognized in Geneva, 1979, at the First World Climate Conference, after which the Global Climate Programme was initiated. A series of intergovernmental conferences on climate change sought reach agreement on coordinated approaches to addressing climate change, but have not achieved the necessary results. The United Nations Framework Convention on Climate Change (UNFCCC) was then established at the Rio Conference in 1992, to which the Kyoto protocol was added in 1997. The protocol came into effect in February, 2005, and required industrialized countries to reduce emissions by 5.2% with respect to the 1990 level during 2008-2012

In 2008 and 2009, two AWGs sought to negotiate an agreement on long-term cooperation, but the subsequent conference in Copenhagen was marked by disputes over transparency of the decision-making process. Nevertheless, an informal negotiating process led the Copenhagen Accord, for which more than 140 countries have expressed their support, and 80 countries have provided information on the objectives of reducing emissions and mitigation actions. Following indications that the commitments undertaken in the Kyoto

Accord would not be fulfilled, the 2010 Cancun Accord sought to produce significant progress, but the results were modest and legally non-binding, and are widely considered a small step forward in the struggle against climate change.

The UNFCCC has recognized that the extreme vulnerability to climate change of Least Developed Countries and their limited adaptive capacity necessitates differentiated roles and responsibilities between developed nations and those of the developing world. Nevertheless, the establishment of the Least Developed Countries Fund and a variety of other instruments and accords that purportedly seek to combat the negative impacts of climate change, Western contributions to green house gasses continue to pose a terrible threat to both developing and developed nations.

2 Climate Change as a Threat to International Security and Human Rights

Climate change constitutes a threat to international peace and security for several reasons. The "urban crisis", specifically the criticalities evinced by the debate on Global Climate Change in the cities of the Global South, extreme weather events (tsunamis, flooding, etc.) and increasingly combining with the stresses to which cities are already subject, creating in many instances a critical lack of resources, including land, food, and clean drinking water. It is in precisely this difficult environment where there is a constant lack of resources and uncertainty that the potential for violent conflict at the local, regional, or international level is likely to develop.

The present chapter will examine several different aspects of the threat to international security and human rights that is posed by climate change. First, the political destabi-

lization that is likely to be produced in the countries of the Global South as a result of the impacts of climate change is explored. In particular, the negative impacts, either that are already being witnessed or those that are projected to occur, in the urban areas of developing and least developed countries, where the majority of the population is concentrated and where certain risks are higher, are described. Climate change is also addressed with respect to human rights and nation's rights, and is found to threaten access to clean drinking water, access to adequate housing, and to constitute a violation of the sovereignty of UN Member States.

Climate change threatens international peace and security not only in terms of the negative impacts that it has in the aforementioned areas, but also because there is a lack of coordination at the international level as regards how to address, mitigate, and ultimate stop it. Finally, the growing international recognition of the unequal distribution of effects of climate change in the countries that contribute least to global warming is acknowledged, and the potential for violent conflict resulting from this imbalance is discussed.

2.1 Climate Change as a Destabilizing Factor in Developing Countries

Attention to adaptation measures for climate change effects in the cities of low- and medium-income countries is necessitated by the fact that they represent nearly three quarters of world population, and will be the site of most of the population growth that will occur over the next few years, casting them in a determinative role as regards the production of green house gasses. Their population, which grows at an elevated rate, is highly exposed to risks of storms, flooding, and other extreme events and environmental stresses linked to climate change (ibid.). Environmental changes can exacerbate already critical hygiene

situations, promoting the spread of diseases such as malaria (Wilbanks et al., 2007; Parry et al., 2007). The rapid informal expansion of cities without health care infrastructure and in areas of environmental risk (e.g. hydro-geological risk) could combine with environmental transformation, intensifying the impacts of climate change, and forcing local and national governments to dedicate extensive resources to the reduction of urban vulnerability. For these reasons (Bulkeley, 2006; Byrne and Jinjun, 2009; Gleeson, 2008; Newman, Beatley & Boyer, 2009; Smith, Levin, Koslow, Tyler & Glover, 2010; Wilson and Piper, 2010) it is strongly maintained that there is an urgent need to adapt urban systems to climate change, and therefore to develop specific studies and policies for the adaptation of human settlements to future climate changes in order to minimize the risks they constitute in terms of people's well being (Gleeson, 2008).

Some development studies have raised important questions on the adaptive capacity of populations and communities, highlighting the relationship between the lowest levels of adaptive capacity and poverty (Dow et al., 2006), and therefore how the question of social justice is implicit in climate change. In general, medium- to low-income countries have limited adaptive capacity because their financial resources are limited and their institutions lack the capacity to mobilize them. The justice issue is amplified by the fact that the impacts of climate change are probably linked to processes of industrialization in developed countries, and thus to the emissions associated with decades of economic growth in wealthy countries, while the communities most impacted by climate change are located primarily in the poorest areas that have not benefitted from that growth.

As with other complex and transversal issues that have broad social and economic implications, government intervention is considered most effective if implemented through

the integration of adaptation to climate change within policies for spatial planning and for development more generally (Klein, 2003). This integration should not be understood as the introduction of specific adaptation measures into the planning and implementation of territorial development strategies, but rather as mainstreaming, i.e. the consideration of adaptation to climate change in the decision-making and planning processes. The advantages of mainstreaming include guaranteeing long-term sustainability of investments and reduction of sensitivity to environmental change (Huq et al., 2003; Agrawala, 2005; Klein et al., 2005; Eriksen et al., 2007). Mainstreaming is therefore viewed as a strategy for achieving more effective and efficient use of financial and human resources as regards the definition, implementation and management of climate policies in a manner that is separate and independent from the development initiatives already underway.

Despite the emphasis placed on adaptation following the Bali conference, there is still an imbalance between projects and programs on mitigation strategies and those for adaptation. In fact, the majority of financing is directed to mitigation in both high-income countries and in LDCs. Moreover, most projects and programs for cities are focused on reducing their contribution to climate change, while those on adaptation are found predominantly in rural and agricultural areas, particularly in the poorer countries, and concentrate on livelihoods and exploitation of natural resources that are sensitive to climate change. Finally, the existence of different financing streams for mitigation and adaptation contribute to keeping the two strategies separate and limiting the development of projects that involve a synergic interaction between the two.

Landlocked countries in the developing world are arguably among the most vulnerable, as they face unique challenges that “derive from their distance from world markets,

high transport costs, and lack of access to water and trade routes" (General Assembly, 2012). As The Deputy Prime Minister of the Lao People's Democratic Republic recently stated, "even as [landlocked] countries laboured to improve their infrastructure and expand their economies, their challenges were exacerbated by natural disasters or fallout from global events such as the financial crisis" (ibid.).

2.2 Impacts in Urban Areas

The environmental changes that occur in urban environments have impacts on health, biodiversity, and people's quality of life. The 2007 IPCC report reflects the growing risk of extreme climate events (storms, flooding, drought) and environmental stress due to changes in rainfall patterns, temperature and air humidity (see Appendix VII). Like the causes of changes, the intensity of their impacts on health, biodiversity and people's quality of life will be different depending on the geographical, environmental, economic and social conditions that influence vulnerability in a given context. Low-income social groups, who have limited resources at their disposal, have more difficulty insuring their assets or guaranteeing access to water, electricity, sanitary services, sewers and other basic services (for example in terms of moving to safer areas) (Davoudi, 2009; Satterthwaite, 2007). The range of environmental, economic and social consequences that climate change may produce in cities, and in particular in low- to medium-income countries, will depend largely on the manner in which they are organized and managed, from their fiscal balance, to the quality of their infrastructure, to their method of managing resources (Satterthwaite, 2007). UN-Habitat has asserted that the urban dimension of climate change still has a limited presence in the international debate, and that "since the impacts of climate change compromise

countries' efforts to reach sustainable development objectives, adaptation is necessary. This is fundamental, especially because the climate is already changing and the majority of countries do not have the adaptive capacity to respond to or address the impacts of climate change on cities, settlements and livelihoods" (UN-Habitat, 2008).

2.3 Climate Change and Human Rights

2.3.1 Access to Clean Drinking Water

Access to clean drinking water is a fundamental issue that already falls within the purview of several UN agencies, including the Food and Agricultural Organization (FAO) and the World Food Program (WFP). Moreover, on July 28th, 2010, the UN General Assembly declared that access to clean water and sanitation is a human right (UN News Centre, 2012b). The impacts of climate change are now interfering with this human right, and seawater intrusion represents one of the major factors of saline contamination of groundwater in a coastal aquifer. This phenomenon is generally considered one of the primary processes contributing to the deterioration of groundwater quality, as it can cause salt content in groundwater to reach levels exceeding the acceptable standards for drinking and irrigation (FAO, 1997; Bear et al., 1999).

Seawater intrusion occurs spontaneously as a function of the natural variations in aquifer recharge (alternating periods of supply and discharge) and the periodic fluctuations in sea level (tidal effect) (Ataie-Ashtiani et al., 1999; Li et al., 2003), and can be accelerated by anthropogenic factors, such as: overexploitation of coastal aquifers (Demirel, 2004; Pulido-Leboef, 2004; Ben Kabbour et al., 2005); changes in land use at the hydrogeological

basin scale (e.g., urbanization and soil impermeability, canalization of rivers, changes in the coastline, drainage, deforestation), that reduce the natural aquifer recharge (Ranjan et al., 2006). However, saltwater intrusion into the aquifer is now revealing itself to also be sensitive to the effects of climate change, such as sea level rises and changes in local climate (variation in rainfall patterns and increase in average temperature) (IPCC, 2007; Sherif et al., 1999; Bates et al., 2008; Ranjan et al., 2006; Hay et al., 2005; Payne, 2010), suggesting that climate change is poses a direct threat to the survival of populations relying on coastal aquifers for drinking water.

Saltwater intrusion is the temporary or permanent movement of salt water in an aquifer. This phenomenon can be induced by various causes, such as: saltwater penetration from the sea into the aquifer (seawater intrusion); rising saltwater along estuaries and rivers; soil leaching and groundwater dissolution of evaporite rocks; deposits of mineralized water in volcanic or tectonically unbalanced regions; civil, industrial, agricultural or zootechnical wastewater penetration in the aquifer; and destruction of natural barriers that separate fresh water from salt water (FAO, 1997; Custodio et al., 1987; Custodio, 2005; Cotecchia et al., 1993; Faye et al., 2005). The growing urbanization of coastal areas, especially in Southern countries, is associated with an increase in population (rise in water demand and inadequacy of basic services) and typically occurs in built-up areas (increase in soil impermeability). This urbanization may cause overexploitation of groundwater and an increase in sources of pollution (Mato, 2002; Steyl et al., 2010). Both of these factors contribute to deterioration of aquifer quality and the increase in saltwater intrusion.

When these vulnerability factors are combined with the rapidly increasing impacts of climate change, the risks to entire populations' access to clean drinking water are se-

verely aggravated. In fact, salinization of coastal aquifers is a widespread and determinative problem for the socio-economic development of large coastal cities in the South, such as Dakar in Senegal (Faye et al., 2004; Re et al., 2011), Accra in Ghana (Kortatsi et al., 2001; Kortatsi, 2006), Lagos in Nigeria (Oteri et al., 2003; Adepelumi, 2008), Recife in Brazil (Montenegro et al., 2010), Buenos Aires in Argentina (Pousa et al., 2007), and Dar es Salaam in Tanzania, where the urbanization rate is very high and urban agriculture is often the primary activity.

The rapid urbanization taking place in many cities in the Global South over the past 20 years has caused uncontrolled development of the urban fabric (extended peri-urban areas), the proliferation of informal settlements and the deterioration of public services, together with a significant increase in residents' water demand (UN-HABITAT, 2009). In many of these cities a large percentage of inhabitants do not have access to sewers (for example in Dar es Salaam the sewer system serves only 13% of the population) whose effluents are potential sources of pollution for the aquifer (AA.VV., 2004; Kjellen, 2006; Mtoni et al., 2010).

Under these conditions, the majority of the population must seek alternative, often unprotected sources of water supply. As a result of the increased demand for water resources and the authorities' incapacity to adjust services, groundwater has become increasingly important for supporting human activities over the past 15 years. In fact, since 1997 the number of boreholes has increased significantly, up from a few dozen to more than 1300 registered private boreholes (which pump groundwater from both unconfined and semi-confined aquifers) for domestic, commercial and industrial uses. An unspecified

number of informal shallow wells have also been developed (Mjemah et al., 2009), and the trend is still growing (Mtoni et al., 2010).

The contemporaneous increase in use of groundwater and the accelerating impacts of climate change as regards saltwater intrusion into the acquifer raises concerns about the quality and quantity of available water resources in the future. Groundwater, especially shallow aquifer, must be considered an unprotected source due to increasing salt pollution. This salinization has resulted from penetration of anthropogenic pollutants (domestic, agricultural and industrial) (Mato, 2002; Mjemah, 2007), geological salinization factors (geological deposit, water ascending from deep marine sediments) (Mjemah, 2007), and the increase in seawater intrusion (raising freshwater/saltwater interface) (Mtoni et al, 2010). The available hydrogeological and geochemical data available is not adequate for a detailed study of seawater intrusion processes, nor can it be used to determine the trend and spatial distribution of the zone of diffusion between freshwater and saltwater in order to predict the future impacts (Mtoni et al., 2010). However, that data does demonstrate that seawater intrusion is a growing phenomenon, attributable to increasing aquifer exploitation together with the increase in soil impermeability (decrease in the rate of aquifer recharge), and therefore a possible threat to coastal aquifers.

2.3.2 Access to Land and Adequate Housing

The human right of access to land"[8] has long dominated the development, poverty reduction and food security policies of many UN agencies and other organizations. In recent years this issue has become closely related with reduction of vulnerability to climate change. It is widely believed that there is a close relationship between access to land and formalization of use and occupation rights, between regularization and security of access to land as a productive asset or living space. The increased commodification of land in areas that were previously characterized by customary land use, a practice that is not recognized in the Western legal framework, often limits the possibility of providing housing at accessible prices, thus favouring the diffusion of unauthorized or illegal settlements (Hansen and Vaa, 2002: 9). Evidence suggests that poorer residents without formalized land tenure have limited or no access to important infrastructure that provides sanitation services and clean drinking water. This condition of vulnerability leaves residents more prone to the spread of disease in environmental crisis situations provoked by climate change, such as flooding, while also leaving them without access to clear drinking water in periods of drought when the natural sources upon which they rely may diminish or dry up completely.

International agencies such as USAID, UNICEF, the World Bank and CARE, as well as in the rural planning and management manuals for the area (Dalal-Clayton et al., 2002) are working to address the issue of land and housing access in these "slums" of the developing world, meaning settlements characterized by low-quality housing, insufficient levels of infrastructure and services, and no recognition of the legal right to occupy land

[8] Here "access to land" is intended as the possibility of using a space, whether privately or publicly, individually or collectively, for habitation and in order to carry out economic or other activities.

(Beall and Fox, 2009: 27). In such areas, urban residents maintain ties to rural existence as a socio-cultural tendency. Access to employment, housing and society in urban areas are often subordinate to the way urban residents relate to specific natural resources. Such residents are therefore subject to increased risks associated with climate changes that impact access to such resources, including clean drinking water and arable land.

The need to consider climate change and access to housing in an interconnected way is evinced by the principles and objectives outlined in the United Nations Conference on Environment and Development (UNCED) Agenda 21, signed by 100 governments in 1992 in Rio de Janeiro. Four years later the Habitat Agenda – the Istanbul Declaration – confirmed and expanded Agenda 21, calling for effective action in order to provide adequate housing to everyone and "sustainable human settlement" in an urbanizing world. Agenda 21 and the Habitat Agenda are two milestones in a significant change in perspective that occurred during the 90s, because they recognize environmental problems as an integral part of social and economic development processes. Recognition of the connection between climate change and housing has led to a renewed debate on the human rights implications of environmental problems. Although this is not a new area of interest, it is giving rise to new interpretations of the climate crisis that reveal the inadequacy of modalities with which the processes of environmental change that characterize developing and least developed countries are defined and addressed.

The perspectives of Agenda 21 and the Habitat Agenda also reflect the link between climate sustainability and governance. Sustainable development is seen as the result of a process that involves common people in their daily lives, rather than the exclusive domain of governments and experts. As a result, the need to include the people who are usually

marginalized and excluded from decision-making processes should be emphasized, placing the question of participation at the centre of the debate over sustainable development.

The key is therefore to understand what determinants of adaptive capacity and planning governance mechanisms, such as the UN, should act upon in order to reduce social vulnerability to the impacts of climate change. Much of the literature identifies such determinants as the presence or absence of infrastructure and services, soil and housing quality, and public emergency systems. Moreover, the debate on low- and medium-income countries, which are most affected by climate change, has underlined the existence of multi-level determinants of vulnerability that are principally connected to the failures of governance and development (Agrawal, 2008). These failures clearly evince the need for a more coordinated and concerted approach to addressing the human rights violations that flow from climate change.

2.4 Climate Change and Nations' Rights

2.4.1 Environmental Transformation as a Violation of Sovereignty

The United Nations Charter is built on the fundamental principle of the sovereignty of all Member States. In addition to the many human rights violations, resource shortages and rising international tensions that are likely to be cause by climate change, contribution to the impacts of climate change constitutes a violation of the sovereignty of nations that is explicitly protected under the United Nations Charter. Subsections 1 and 2 of Article 2 of the *Charter* state that the UN is based on the sovereign equality of all Members, and the equal rights and self-determination of peoples. As has been clearly demonstrated in pre-

vious chapters and earlier in the present chapter, the impacts of climate change have a variety of negative effects on the people of all parts of the world, particularly in the developing and least developed countries. Any contribution to climate change therefore constitutes a violation of these subsections of the *Charter*, since the voluntary acts of those countries, and their failure to alter their polluting and high-consumption behaviours are conscious choices that directly impede the potential for other nations to realize self-determination and equal rights. The unequal contribution to green house gas emissions made by the Western world thus constitutes an increased level of violation of that right. For example, lack of access to clean drinking water is not a problem (yet) in the developed world, but as we have seen it is just one example of the result of climate change that is already beginning to occur in the Global South. This circumstance does not constitute the equal rights of Member States upon which the UN is based.

2.4.2 Rising Sea Levels as an Existential Threat

The rising seas levels resulting from Global Warning also constitute an existential threat to entire nations. This is particularly true of many countries in the Pacific, "where the sea level is projected to rise three feet or more by the end of the century" (Stephen, 2011). One such example is the nation of Nauru, where the coastline, the only habitable area after years of mining and deforestation that have destroyed the inner area of the island nation, is steadily eroding. Similarly, "communities in Papua New Guinea and the Solomon Islands have been forced to flee their homes to escape record tides [and] the low-lying nations of Tuvalu, Kiribati and the Marshall Islands may vanish entirely within our grandchildren's lifetimes" (ibid.). Moreover, the Prime Minister of Tonga recently stated at the United Na-

tions General Assembly (2012) that the security implications of climate change include the impact on territorial integrity.

During the sixty-seventh General Assembly of the United Nations, representatives of Caribbean Nations and Pacific Island States spoke out regarding the increasing threat to their existence that is posed by climate change. The Prime Minister of Saint Vincent and the Grenadines warned the Assembly "Entire nations that currently occupy [the] Assembly […] may simply cease to exist as a result of our inaction" (General Assembly, 2012). Subsection 4 of Article 2 states that Members of the United Nations "shall not threaten […] any state". Yet the threats posed by climate change are manifold, undeniable, and so serious as to constitute not only threats of harm, but also threats of annihilation. This is most immediately true for the Island nations of the Pacific, but the coastal regions of the other nations in the Global South are also threatened with the loss of territory, lack of access to drinking water, and extreme weather events such as hurricanes and tsunamis, all of which could cause the deaths of their citizens. Therefore every State that contributes to global warming and climate change, with the full knowledge of the gravity of the impacts that unchecked emission of green house gasses will have for the international community, is violating the sovereignty of all effected Member States.

2.5 Lack of Coordination and Regularization of Approaches to Resolving the Climate Issue at the International Level

The persistence in the regulatory sphere of inadequate interpretive approaches pervaded by "asymmetrical ignorance", and of the hegemonic and dominant position of Western scientific production, often assumes or produces universalization strategies and prac-

tices of exclusion from knowledge production. This issue has become more prevalent in recent years in the face of aggravated environmental "crises" linked to Global Environmental Change, which now highlights the extreme vulnerability of the planet, and particularly high-risk cities and coastal regions in the Global South, as well as the urgent need to formulate adequate approaches to interpretation and planning. Many researchers are now asserting that the imposition of Western interpretive models could exacerbate the effects of the environmental transformations already underway. The lack of global coordination and the need for more balanced and representative interpretive approaches to resolving the climate issue is one factor that supports the direct involvement of the UN Security Council in this area.

The debate over and programs for Sustainable Cities, initiated at the Rio Conference, shed light on the relationship between urban development and natural environments, and are relevant at the political level. However, in practice a dichotomous and sectorial Western approach continues to dominate urban planning. The debate on Climate Change that has developed in recent years has brought the environmental question to the fore, challenging both interpretative models and planning strategies and instruments at the global level, particularly in the areas that are more vulnerable to environmental change. The natural disasters and environmental stresses that we are now witnessing (which may be the result of climate change or of a combination that also includes local anthropic activities) necessitate new approaches to the growing climate crisis (Simone, 2007: 305).

Improving the efficacy of responses to the climate crisis in the cities of the Global South is a priority for the UN Security Council because such areas are particularly vulnerable (Satterthwaite, 2007; Tacoli, 1998), and because attempts at environmental planning

and management in those areas have proven to be ineffective in many cases (Friedman, 2005). Although the approaches that have recently been theorized and applied are quite diverse (the resilience approach, the vulnerability approach, integrated approaches, etc.) they all seem to share certain assumptions that have lead to the implementation of inadequate strategies. In other words, a perspective that is heavily oriented by and constructed on the basis of Western epistemological and urban-centric models (cultural bias), referred to by some researchers as "asymmetrical ignorance" (Robinson, 2006), has so far been unsuccessful at orienting urban development processes in a manner that minimizes contributions to green house gas emissions and therefore the tensions that result from the consequent impacts of climate change.

The paradigm of sustainable development, as well as neoliberalism and processes of privatization and institutional decentralization, has guided the climate change agenda at the international level. Sustainable development has taken on a variety of meanings in international documents (McGranahan and Satterthwaite, 2002; Buckingham-Hatfield and Percy, 1999, cited in Myers, 2005) that generally refer to the balance between economic growth and environmental impacts. Many have criticized the limited practicality and the contradictory nature (Barrow, 1995, cited in Myers, 2005) of inadequate consideration for the political dimension (Bryan, 1991, ctied in Myers, 2005), which according to some scholars (Sandilands, 1996, cited in Myers, 2005) is intentionally omitted in order to conceal problems related to ideological interests and conflicts or power relations.

In this sense, many attempts to construct sustainable development models based on the constant maintenance of a given natural capital, in which "changes in natural resources and the environment [are understood] as non negative" (Pearce and Turner, 1990: 4, cited

in Myers, 2005), come up against the need to understand who defines what a negative change is (Myers, 2005). So, what appears to be a method for addressing the negative effects of climate change, industrialization and urbanization and improving social, economic and environmental conditions, becomes, according to some, an instrument that serves the market, top-down planning, scientific and technological solutions (Hanson and Lake, 2000, cited in Myers, 2005) that do not actually serve the needs of the majority of the population. If these approaches to climate change are not corrected, the tensions provoked by unaddressed and aggravating climate change impacts will continue to worsen.

2.6 Increasing Tensions Caused by Climate Change

The policies and strategies for addressing environmental change in the cities of low- and medium-income countries aim primarily to reduce people's vulnerability by orienting approaches to spatial planning, seeking to reduce the causes of climate change (mitigation) and, above all, reducing the impacts of environmental transformation that are already under way (adaptation). The mainstreaming of adaptation strategies in planning processes assumes a central role in the struggle to reduce social vulnerability in the city, but it also represents a critical aspect. If planners do not distance themselves from the approaches that have oriented urban planning up to now, which are based on the "asymmetrical ignorance" that characterizes many urban studies, the mainstreaming of adaptation in current practices runs the risk of aggravating the effects of environmental change rather than reducing them.

In fact, recourse to interventions for "completion", security, sanitation, and upgrading of the non-cities of the Global South as a solution to the challenges posed by climate change clashes with settlement processes and the temporary, hybrid, rapid and multidirec-

tional organization and management of space that actually give form and body to contemporary space. This clash is explanatory as regards the conflict between global ideas of the city, which are at the basis of policies and instruments that often increase social vulnerability to environmental change, and local processes of the production of space.

Recognition of the unequal distribution of climate change effects and contributions to green house gas emissions has reached the international level, and was the topic of discussion at the most recent General Assembly of the United Nations. The Prime Minister of Saint Kitts and Nevis expressed frustration over the fact that that the main contributors of green house gasses still are not taking responsibility for "the coastal degradation, coral reef bleaching and decimation, infrastructure damage and loss of lives that their actions had wrought" and stating "the physical, mental and financial burden that other countries' energy usage has inflicted on countries like [his] has been enormous — plunging [them] deeper into debt and severely frustrating [their] efforts to meet [their] Millennium Development Goals" (General Assembly, 2012).

2.7 The Potential for War

Contemporary approaches to Climate Change as an international concern have combined "security" concerns with the goal of improving the functioning of the State and the Market, and have placed an emphasis on the role of property law norms, bureaucratic efficiency and responsibility. Above all, with the emergence of the spectre of terrorism (the attacks of September 11, 2001), poverty and inequality have come to be viewed as threats to global security and as linked to the failure of medium- and low-income states (Marvin and Hodson, 2009). Recent conflicts in the Middle East and North Africa render the ques-

tion of security, which combines political and environmental aspects, more relevant. That question is further amplified by the debates on Climate Change and the "environmental crisis" of recent years, which will continue to exacerbate conditions of poverty and decline in both urban and rural areas, and will have worse effects in African cities, particularly in peri-urban areas, where a large portion of the population is concentrated, and on people who are dependent on natural resources.

If, as climate scenarios suggest, the temperature continues to rise and precipitation increases in tropical zones (IPCCb, 2007), there will be increasingly frequent and intense climate changes that threaten to make the people who straddle urban and rural economies and environments even more vulnerable, as well as those in the high-density settlements situated in zones of high environmental risk (humid, depressed, or coastal zones, etc.). Moreover, urban development and variations in socio-economic conditions in peri-urban areas alter exposure and sensitivity to environmental change, affecting the probability that a given environmental change will occur and orienting the impacts thereof in a positive or negative way.

The Pentagon and other military establishments have long recognized climate change as a "threat multiplier with the potential to escalate existing conflicts, and create new disputes as food, water, and arable land become increasingly scarce" (Goldenberg, 2011). The UN has also acknowledged climate change as a risk factor for international peace and security. As recently as September of this year (2012) UN Deputy Secretary-General Jan Eliasson has emphasized the impact that climate change has on food security, peace and stability, and has called on countries to cooperate to address this phenomenon and commenting that "there is enough human-introduced carbon in the atmosphere to drive

climate change for decades to come" (UN New Centre, 2012). Unless this problem is addressed, energy, food and water security will be at increased risk in the years to come. The Deputy-Secretary stressed that there is a need for "a long-term strategy in place which allows countries to transition to sustainable, low-emission economies", describing effective response to the climate crisis as "imperative" for international peace and security. "Addressing climate change and building resilience […] are critical for sustainable development – and sustainable development is critical for peace and stability" (ibid.).

2.8 Summary

The imbalance between the contributors to climate change, and those who will be most affected by it, is already overwhelming and expected to continue to grow. The majority of the world's population, and the largest portion of the projected population growth, are located in the countries of the Global South. These countries contribute less to green house gas emissions than do the countries of the developed and Western world, yet they are the most vulnerable to the negative consequences of global warming. Financing so far has focused on adapting to climate change in these areas, rather than mitigating the contributions made in richer countries, reflecting an attitude that prefers to treat the symptoms rather than the disease. Landlocked countries and urban areas have been found to be particularly vulnerable as regards the deterioration sanitation, health, biodiversity, and other services. Nevertheless, these issues have a limited presence in the international climate change discourse.

We have seen that the environmental, social and economic effects of environmental change are considerable. Not only do the impacts of climate change cause environmental

degradation, they also have been found to violate basic human rights recognized by the United Nations in a variety of instruments and declarations. Access to clean drinking water, an established human right, is severely threatened by climate change, particularly in the coastal areas of developing nations where inhabitants rely primarily on groundwater for drinking and agricultural activities (this issue therefore has corollary impacts on food security as well). When the vulnerability factors that characterize the urban areas of the Global South (such as unchecked urbanization, rapid population growth, and inadequate infrastructure) are combined with the rapidly increasing impacts of climate change (rising sea levels, soil impermeability due to drought and deforestation), the risks to entire populations' access to clean drinking water are severely aggravated.

The human right to adequate housing recognized by the UN and reinforced by the UN Habitat Agenda and Agenda 21 should also be considered in relation to climate change. In particular, the impacts of climate change may in many instances render already inadequate housing and circumstances of vulnerability even more tenuous as regards health, sanitation, access to clean drinking water, soil and housing quality and emergency systems. The lack of adequate housing does not flow from climate change, rather it has been caused by a variety of factors, including changes in land tenure regimes that have been used to disenfranchise and marginalize traditional communities, rapid population growth in developing nations and increasing commodification of land. However, the impacts of climate change are aggravating the circumstances of citizens who already suffer from a lack of access to adequate housing, thus worsening the existing violation of those residents' human rights.

The impacts of climate change have also been found to violate the rights of sovereign nations as established in the UN Charter. In particular, Article 2, subsections 1 and 2 establishing the sovereignty and right to self determination of all UN Member States are violated by any action that directly contributes to climate change, which in turn has negative impacts within the sovereign boundaries of states that can interfere with the capacity for self-determination. Furthermore, subsection 4, which prohibits Member States from threatening other Member States, is blatantly violated by the threats of harm and even annihilation that are posed by the rising sea levels that result from global warming. Thus ongoing contribution to climate change by any nation is a direct violation of the human rights of the individuals in effected countries, and of the sovereign rights of the nations that face serious threats of harm as a result of the impacts of global warming.

The planning policies and strategies underway leave many questions unanswered, which draws attention to several criticalities that are not new. The one-sided imposition of Western interpretive models that ignores the perspectives of the Global South in the context of the international climate change debate may exacerbate the effects of environmental transformations. A perspective that is heavily oriented by and constructed on the basis of Western epistemological and urban-centric models has failed to orient urban development processes in a manner that minimizes contributions to green house gas emissions or the consequent international tensions. Moreover, the sustainable development discourse has been accused of progressing in a manner that veils attempts to impose top-down market systems that favour the Western world economically, while failing to achieve actual gains as regards the reduction of green house gas emissions.

Involvement of the UN Security Council is therefore necessitated in order to achieve better coordination and a more balanced and representative interpretive approach to resolving the climate issue.

The growing international awareness of the injustices inherent in the climate crisis, combined with the destabilizing effect that the local impacts of climate change are likely to have on any given population, render climate change a clear issue of international peace and security. Poverty and inequality are now commonly viewed viewed as threats to global security and as linked to the failure of medium- and low-income states, and climate change will continue to exacerbate conditions of poverty and decline in both urban and rural areas. Climate change should therefore be considered a threat multiplier, as it has the potential to both escalate existing conflicts and to create new disputes over such resources as food, water, and arable land. National defense ministries, as well as the UN itself, now acknowledge the impact that climate change has on food security, peace and stability.

3 The United Nations Security Council

3.1 History of the United Nations

Efforts to coordinate peaceful cooperation between multiple nations are not a new phenomenon. In contemporary history, many international instruments that are now incorporated into the United Nations have existed for over 150 years. For example, the International Telecommunication Union was created in 1865, and the Universal Postal Union in 1874. Internationally applicable rules of war were also elaborated at the Hague in 1899 and again in 1902. During the subsequent first world war, the League of Nations was created, "to promote international cooperation and to achieve peace and security". When the League

of Nations proved ineffective at preventing WWI, a new organization, the "United Nations" was created. This terminology was first used in the Declaration by the United Nations on January 1st, 1942, which was issued during WWII by 26 countries pledging to fight Nazi Germany and their allies. At the conclusion of the war, a meeting was held in San Francisco, 1945, where 50 national representatives were present at the drafting of the United Nations Charter, with which the UN as an international body was officially established. The Charter was signed by the original member states on June 26th of that year, and ratified by the five members of the Security Council on October 24th, a date that marks the official birth of the UN (United Nations, 2012a).

3.2 The Security Council

The United Nations is divided into six main bodies: the General Assembly, the Economic and Social Council, the International Court of Justice, the Trusteeship Council, the Secretariat, and the Security Council (United Nations, 2012c). The Security Council "takes the lead in determining the existence of a threat to the peace or act of aggression […] calls upon the parties to a dispute to settle it by peaceful means and recommends methods of adjustment or terms of settlement […] and can resort to imposing sanctions or even authorize the use of force to maintain or restore international peace and security" (United Nations, 2012e). Additional responsibilities of the Council include making recommendations to the General Assembly regarding the appointment of Secretaries-General, the admission of new Members, and the election of judges to the ICJ (ibid.).

The Security Council has five permanent and 10 non-permanent members, making a total of 15 members, and "is organized in such a way that it can function continuously,

and a representative of each of its members must be present at all times at UN Headquarters" (United Nations, 2012d). The permanent members of the Council are China, France, the Russian Federation, the United Kingdom and the United States. The non-permanent members of the Council are elected by the General Assembly for two-year terms. The current non-permanent members, and the end of their term, are as follows: Azerbaijan (2013), Colombia (2012), Germany (2012), Guatemala (2013), India (2012), Morocco (2013), Pakistan (2013), Portugal (2012), South Africa (2012), and Togo (2013) (United Nations, 2012b).

3.3 Voting

The decision-making mechanism of the Security Council allots one vote to each of the fifteen Members, and all votes are weighted equally. Security Council decisions are binding on all United Nations Member States, per the UN Charter (United Nations, 2012c). The rotating terms of 2-years for non-permanent members creates a degree of representativeness in the Council, however, severe power imbalances do exist. The five permanent members of the Council have veto power over any decision, rendering it difficult to pass any resolutions that are contrary to the interests of an individual State (the U.S.' use of veto power to quash dozens of resolutions regarding the Israeli war on Palestine is one such example). At the same time, "over 70 United Nations Member States have never been Members of the Security Council" (United Nations, 2012d), which limits these States' capacity to influence Security Council decisions. UN Member States are still able to participate in Council discussions, but they are not allotted voting power, and the conditions of their participation is determined by the Security Council Members (ibid.).

3.4 Mandate

The UN Security Council was established by the UN Charter, which gives "primary responsibility for maintaining international peace and security to the Security Council, which may meet whenever peace is threatened" (United Nations, 2012f). What places the Security Council in a unique position of power, however, is the fact that while other organs or member-states of the UN can voice proposals, make recommendations and advocate for collective action, only the Security Council has binding authority to require all the members of the United Nations "to accept and carry out [its] decisions" (ibid.).

As an organ of the UN, the Security Council shares the general UN mandate to pursue the following four goals:

- to maintain international peace and security;
- to develop friendly relations among nations;
- to cooperate in solving international problems and in promoting respect for human rights;
- and to be a centre for harmonizing the actions of nations (ibid.).

Taking action in the face of climate change falls squarely within the purview of these four aspects of the UN mandate. As demonstrated in the previous chapter, the destabilizing impacts of climate change, and increasing resentment of the developing and least developed countries who are most impacted by those changes towards the developed and predominantly Western polluters and consumers of fossil fuels who are driving that change, pose increasing risks to international peace and security. Moreover, these growing tensions, even prior to developing into a real risk of violent reprisal, constitute an important obstacle

to friendly relations among nations, and therefore fall within the second point of the UN mandate irrespective of whether international tensions degenerate to the point of actual war. Third, climate change is an international problem in terms of impact of the quality of people's lives, and constitutes a threat to several human rights recognized by the UN charter, such as the right to life, the right to adequate housing, the right to food and clean drinking water, and the sovereign right to freedom from interference in internal affairs. Finally, we have seen that the present state of international coordination with respect to addressing climate change issues through prevention and mitigation programs has left much to be desired. Ideological considerations being different across the many fields implicated in this issue, including economics, international development, human rights discourse and international security, no single unified approach has been established through which to coordinate a concerted, and therefore effective effort to address the climate crisis. The fourth point of the UN mandate therefore places this issue within the purview of the UN Security Council, since harmonization of the actions already underway in this field is desperately needed in order to achieve real gains in combatting climate change itself, as well as the negative impacts that it has on human lives.

3.5 Maintaining Peace and Security

When a complaint concerning a threat to peace is brought before the Council, it has the authority to undertake a variety of responses. In particular, it may:

- set forth principles for such an agreement;
- undertake investigation and mediation, in some cases;
- dispatch a mission;

- appoint special envoys; or
- request the Secretary-General to use his good offices to achieve a pacific settlement of the dispute (ibid).

These mechanisms are perfectly suited to improving the effectiveness of climate crisis interventions. Because of its authority and capacity to identify pacific settlements of disputes and complaints arising from the impacts of climate change through investigation and mediation, the Security Council is the most appropriate international body with whom to entrust this global issue. Moreover, the establishment of the basic principles and tenets of any agreement in this domain would be a much more effective method of setting out internationally binding norms regarding the emissions of green house gasses, and other activities that are directly relevant to climate change. The existing approach of establishing UN Accords (such as the Kyoto Accord) has proven ineffective in achieving meaningful change or international compliance. Involvement of the Security Council would necessitate compliance on the part of all UN member-states, which would certainly receive a higher degree of respect from individual nations than the voluntary accords of the last decade have enjoyed.

The main force behind Security Council Resolutions is that non-compliance can be met with a variety of measures that seek to prevent deviation from international agreements. In particular, the Security Council is authorized by the UN Charter to engage in a variety of enforcement measures in response to non-compliance with international law or Security Council Resolutions, including:

- economic sanctions, arms embargoes, financial penalties and restrictions, and travel bans;

- severance of diplomatic relations;
- blockade (ibid.)

The goal in assigning the climate crisis to the Security Council is not to prepare for resolution of violent hostilities, rather to prevent the situation from degenerating to that point. In this respect, economic sanctions and financial penalties and restrictions would be extremely effective in guaranteeing compliance with the aforementioned principles of international agreements on acceptable emissions and other issues that the Council would decide as part of its mandate. As already stated, the voluntary participation in UN Accords with no real penalty for non-compliance has not achieved the desired results. "A chief concern [of the Council] is to focus action on those responsible for the policies or practices condemned by the international community, while minimizing the impact of the measures taken on other parts of the population and economy" (ibid.). There is a need for an organ with real authority to take punitive action in order to achieve the cooperation and compliance at the international level that is necessary in order to achieve meaningful progress in combatting the climate crisis.

Nevertheless, the potential for violent hostilities described in the previous chapter does suggest that Security Council should have the opportunity to approve military intervention where necessary, since the purpose of the Council is also to bring hostilities to an end as quickly as possible through any and all of the following means:

- or even collective military action
- issue ceasefire directives that can help prevent an escalation of the conflict;

- dispatch military observers or a peacekeeping force to help reduce tensions, separate opposing forces and establish a calm in which peaceful settlements may be sought (ibid.)

3.6 Disagreement among National Representatives

The question as to whether the Security Council should officially expand its purview to include climate issues has been under consideration since 2011, when a special meeting of the United Nations Security Council was held in order to deliberate the matter (Goldenberg, 2011). Proponents of addressing climate change as a matter of international peace and security include the small island states in the Pacific that are at risk of disappearing altogether as a result of sea level rise, and they have been "pushing the Security Council to intervene to combat the threat to their existence" for several years. Marcus Stephen, the president of Nauru, wrote in in the New York Times, "the Security Council should join the general assembly in recognizing climate change as a threat to international peace and security. It is a threat as great as nuclear proliferation or global terrorism" (2011). Stephen, the chairman of a climate initiative by the Pacific Small Island Developing States, advocates that "a special representative on climate and security should be appointed [and] we must assess whether the United Nations system is itself capable of responding to a crisis of this magnitude" (ibid.). Other supporters advocate the establishment of a new environmental peacekeeping force referred to as the "green helmets" "which could step into conflicts caused by shrinking resources" (Goldenberg, 2011).

However, not all members of the Security Council support this line of reasoning. Some observers have gone so far as to comment that "there is a deep divide over whether

the Security Council should even consider climate change as a security issue" (ibid.). For example, Germany's position is that "it is premature to expect the council to take the plunge into green peacemaking or even adopt climate change as one of its key areas of concern [and] too early to seriously think about council action on climate change (ibid.). China, on the other hand, is entirely opposed to incorporating climate change into the UN Security Council's mandate, arguing that the Security Council "should leave climate change to the experts" and "stick to maintaining peace" (ibid.), reflecting a rejection of climate change as a threat to international peace and security. Nevertheless, intervention by the UN Security Council in climate related circumstances would not be unprecedented. Indeed, "UN peacekeepers have long intervened in areas beyond traditional conflicts" (ibid.).

Nevertheless, in September of 2011 the United Nations Security Council, on 20 July, "unanimously acknowledged for the first time ever that climate change poses a threat to international security" (German Embassy Kingston, 2011). Thus the Security Council "finally managed to overcome its political divide and recognize [the] fundamental reality [of climate change and the risks it poses to the international community]" (Associated Press). As the highest diplomatic body on Earth, the Security Council is viewed as an important determinant of international peace and security discourse, and many observers hope that this development will motivate those countries that have so far been resistant to diplomatic attempts to address climate change speed up their efforts towards establishing a strong global climate treaty. This announcement has important consequences for all UN members who publicly agree that climate change constitutes a threat to international peace and security. Since governments are responsible to their citizenry for protecting their secu-

rity, those governments that accept the connection between global warming and international peace will become accountable to their own people in terms of the approaches and actions they will undertake in order to guarantee their continued safety (Associated Press, 2011).

3.7 The Way Forward

In an official Concept Note issued in 2011, the German government proposed an outline as to how the Security Council should approach the assumption of new responsibilities related to the climate change crisis. That approach would involve drawing up scenarios for dealing with the affects of extreme temperatures and rising seas, how they would deal with climate refugees, how they would prevent conflicts in the parts of Africa and Asia where food shortages are expected, and the identification of additional problems that the Council may need to face (Goldenberg, 2011). Other commentators have echoed these sentiments, suggesting that good planning, disaster preparedness, and developing a thorough understanding of the specific risks faced by each nation, as well as the international community as a whole, are essential actions. The Security Council must also facilitate the establishment of international agreements in which governments commit to emissions reductions "which are significant enough to seriously limit global temperature rise" (Associated Press, 2011), as part of a robust global climate regime that includes climate finance commitments and other efforts to reduce emissions.

Several proposals for addressing climate change have also been advanced within the context of the United Nations General Assembly. The Prime Minister of Saint Kitts and Nevis urged at the most recent meeting of the General Assembly (held on the 28th of Sep-

tember 2012) argued that green energy be made the "absolute global priority", a sentiment that is also reflected in the Secretary General's Sustainable Energy for All initiative. Another representative who spoke at the same General Assembly meeting, the Prime Minister of Vanuatu, has also proposed that the mechanisms and criteria for determining the least developed countries should be amended in order to better recognize their inherent and permanent vulnerabilities to climate change, stating that it would be "unrealistic for the United Nations to make projections without taking such issues into consideration" (General Assembly, 2012).

Beyond the widespread clamour for effective international accords reducing emissions and implementing renewable energy, which is not a new phenomenon, many observers, academics, and national representatives are also pointing to the most powerful nations in the world as both the cause of climate change, and the source of a possible solution. The Prime Minister of Saint Vincent and the Grenadines has stated that ""Arrogant and unbridled power, from whatever source, [must] be contained" if runaway climate change is to be brought into check. This is clearly a thinly veiled reference to the United States, and the question to answer therefore becomes this: will the United States, whose veto power in the Security Council render them effectively immune to the possibility of any resolution that is unfavourable to them, make economic sacrifices for the benefit of the international community? An examination of the United States' recent actions at the geopolitical level are instructive as regards that nation's intention to abide by, uphold, and advocate international law, however it is beyond the scope of the present thesis. However, further reading regarding the establishment of the ICC, the US refusal to submit to the jurisdiction of the World Court or that of the ICJ, the US' illegal defiance of international law during the Kosovo and

Iraq wars are sufficient evidence to demonstrate the increasingly widespread belief that the US government has been on a campaign to undermine the authority of the United Nations in recent decades.

3.8 The Need for Reforms

Many criticisms have been advanced against the United Nations in recent years, particularly with respect to their capacity, or lack thereof, to respond effectively to the climate crisis. The Prime Minister of Saint Vincent and the Grenadines recently stated the "Global structures, including the United Nations, [are now] faced with changes of a scope, scale and rapidity that substantially outpaced their ability to react, and demanded a level of courage not sufficiently matched by political will". These shortcomings are combined with increased resistance on the part of the United States to abide by international law, resistance that is shielded by the country's veto power. However, there is no reform to the UN that could remove the veto power and still maintain the U.S.' tenuous interest in abiding by the laws and norms laid out by the United Nations. The best approach is therefore to keep the UN Security Council as it is, and to continue engaging in advocacy and awareness campaigns that will encourage the country to act in its own best interest by also acting in the interests of the planet.

3.9 Summary

The United Nations Security Council was created in order to coordinate peaceful cooperation between Member States. Its first function is to serve as a forum for the peace-

ful settlement of conflicts between nations, and has the authority to intervene through the use of sanctions or military force where such negotiations are unsuccessful. The five permanent members of the Council – China, France, the Russian Federation, the United Kingdom and the United States – have veto power over any resolution the Council might wish to pass. This affords permanent members considerable power in terms of blocking agreement where it might be unfavourable to them. Ten other UN Member States are offered a rotating position on the Council for terms of two years. These Members can vote on resolutions, but cannot veto them.

The mandate of the UN Security Council is to maintain international peace and security; develop friendly relations among nations; cooperate in solving international problems and in promoting respect for human rights; and to be a centre for harmonizing the actions of nations. Given the fact that climate change poses threats to both international peace and security, has strained the friendly relations among nations, and is an international problem that has been plagued with a lack of cooperation and coordination, climate change falls squarely within the purview of the Security Council. Because of its authority and capacity to identify pacific settlements of disputes and complaints arising from the impacts of climate change through investigation and mediation, the Security Council is the most appropriate international body with whom to entrust this global issue. The passing of Security Council resolutions regarding the emission of green house gasses would be a more effective method of establishing internationally binding norms than the relatively unsuccessful negotiations and Accords that have been undertaken to date. Finally, the Council's authority to intervene in violent conflicts may be necessary as international tension and instability resulting from the impacts of climate change increase.

Despite initial disagreement among the Council's permanent members, they publicly announced in 2011 that climate change does indeed pose a threat to international security. This is an important step forward in battling the climate crisis, and in augmenting the Council's role in that process. This announcement has important consequences for all UN members who publicly agree that climate change constitutes a threat to international peace and security, who are not officially accountable to their people in terms of the approaches and actions they will undertake to combat climate change in order to guarantee their continued safety.

A variety of proposals regarding how the Security Council should approach the climate issue have been advanced. The German government and other commentators have advocated scenario planning for dealing the possible affects of extreme temperatures and rising seas, projects for dealing with climate refugees, and prevention plans for expected conflicts in the parts of Africa and Asia resulting from food shortages. Facilitation by the Security Council of international agreements to reduce emissions are also necessary.

A regards approaches that specifically respond to the heightened vulnerability of developing nations and island states, the Prime Minister of Vanuatu argues that the criteria for determining the least developed countries should be amended in order to better recognize their inherent and permanent vulnerabilities to climate change.

Beyond the widespread clamour for effective international accords reducing emissions and implementing renewable energy, which is not a new phenomenon, many observers, academics, and national representatives are also pointing to the most powerful nations in the world as both the cause of climate change, and the source of a possible solution. The United States, together with the world's secondary powers, must therefore undertake to

promote, respect and advocate internationally binding agreements to reducing green house gas emissions in order to prevent aggravation of the climate crisis.

4 Conclusions

This thesis has sought to construct a series of arguments as to why the United Nations Security Council should take a more active role in resolving the climate crisis that currently threatens the international community with extreme weather events, exhaustion of key resources, violation of human and sovereign rights, and even the possibility of war. To that end, Climate Change as a phenomenon has been explored and explained, the implications of climate change for the international community, and for specific groups, nations and categories of residents have been identified, and the mandate, powers and functions of the Security Council have been discussed.

Climate change, which is largely attributable to the emission of green house gasses, is now an irrefutable reality, yet both the global temperature and the emission of GHGs continue to rise. Given the relationship between the activities that contribute the most to the emission of greenhouse gasses - energy production, transportation, industry, land use and changes in land use, and forest management – as well as population growth and per capita income, it is clear that low-income countries contribute much less than medium- to high-income groups. Yet an examination of the worst effects of climate change reveals that it is these same low-income groups that are most severely affected by climate change, both in the present, and in future projections.

The attempts at establishing international agreements on the reduction of emissions, including the Kyoto protocol, have not yielded the desired results, and conflicting methodologies and ideologies have muddied the waters of coordinated international response efforts, leaving the climate crisis unresolved and possibly even aggravated by clumsy attempts to mitigate or prevent its impacts. Meanwhile, the tensions within developing countries due to climate change, and resentment of the developed world for continuing to aggravate this issue while doing very little to develop solutions, has created potential for conflict so high that the Security Council now accepts that climate change poses a threat to international peace and security.

A methodical analysis of the UN Security Council's mandate and powers discussed in Chapter 3, when considered alongside the various threats posed by climate change, addressed in Chapter 2, demonstrate that there is a clear connection between the two. The lack of international coordination can be addressed through the Security Council's mediation and the possibility of passing resolutions binding upon all United Nations Member states. The violations of human rights that flow from climate change, such as lack of access to clean drinking water and adequate housing, authorise the Council to use its resources to intervene, by means of economic sanctions and even through the use of force, in order to prevent these violations. The national sovereignty guaranteed by Article 2 of the UN Charter, is encroached when one nation's polluting activities interfere with the survival of another, thus necessitating Security Council involvement in order to achieve a peaceful solution before violent outbreaks begin to occur. The vulnerability factors that characterize the urban areas of the Global South (such as unchecked urbanization, rapid population growth, and inadequate infrastructure) are combined with the rapidly increasing impacts of climate

change (rising sea levels, soil impermeability due to drought and deforestation), the risks entire populations as regards human rights violations, food and water security, and political instability are all aggravated. Indeed, climate change is a threat multiplier, and has the potential to escalate existing conflicts and to create new disputes over resources as food, water, and arable land, thus necessitating an intervention on the part of the Security Council in order to maintain peaceful relations between nations and prevent such conflicts.

The growing international awareness of the injustices inherent in the climate crisis, combined with the destabilizing effect that the local impacts of climate change are likely to have on any given population, render climate change a clear issue of international peace and security. Poverty and inequality are now commonly viewed as threats to global security and as linked to the failure of medium- and low-income states, and climate change will continue to exacerbate conditions of poverty and decline in both urban and rural areas. National defense ministries, as well as the UN itself, now acknowledge the impact that climate change has on food security, peace and stability.

The United Nations Security Council was created in order to coordinate peaceful cooperation between Member States. As a forum for the peaceful settlement of conflicts between nations, and has the authority to intervene through the use of sanctions or military force where such negotiations are unsuccessful. Because of its authority and capacity to identify pacific settlements of disputes and complaints arising from the impacts of climate change through investigation and mediation, the Security Council is the most appropriate international body with whom to entrust this global issue. The passing of Security Council resolutions regarding the emission of green house gasses would be a more effective method of establishing internationally binding norms than the relatively unsuccessful negotiations

and Accords that have been undertaken to date. Finally, the Council's authority to intervene in violent conflicts may be necessary as international tension and instability resulting from the impacts of climate change increase.

The Council's announcement that climate change does indeed pose a threat to international security has important consequences for all UN members, who are now officially accountable to their people in terms of the approaches and actions they will undertake to combat climate change in order to guarantee their continued safety. The Security Council should approach the climate issue through a combined effort that involves scenario planning for dealing the possible affects of extreme temperatures and rising seas, projects for dealing with climate refugees, prevention plans for expected conflicts in the parts of Africa and Asia resulting from food shortages, and facilitation of international agreements to reduce emissions.

Amendments to the criteria for Least Developed Countries may also be considered in order to respond more effectively to the heightened vulnerability of developing nations and island states to climate change. The five permanent members of the Council – China, France, the Russian Federation, the United Kingdom and the United States – have veto power over any resolution the Council might wish to pass. This affords permanent members considerable power in terms of blocking agreement where it might be unfavourable to them. The primary impediment to effective Security Council action against aggravation of the climate crisis is the use of veto power by any of the five permanent members as a means of blocking resolutions that may impose high costs on them as western consumers of fossil fuels and primary contributors to climate change. The United States, together with the world's secondary powers, must therefore undertake to promote, respect and advocate

internationally binding agreements to reducing green house gas emissions in order to prevent aggravation of the climate crisis.

As recently advocated in the Associate Press following the Security Council's acknowledgement that climate change poses threats to international peace and security, involvement of the Security Council in the international campaign to stop climate change is not just about protecting us from a looming threat. "It is also about building a fair and better future for people on earth, with prospering economies that create decent new jobs for the next generation, powered by renewable energies and efficient technologies that help us manage our natural resources effectively" (Associated Press, 2011). It is not too late for the international community, led by the Security Council, to achieve these goals. In order to do so, Western nations must take responsibility for the disproportionate contributions they have made to global warming, and undertake equally disproportionate actions to mitigate the effects of their consumption levels. The Western nations on the Security Council are in a unique position to set an example, to accept this responsibility, and to define a new age of environmental and social awareness that leads to the resolution of the climate crisis. The only alternative is the deterioration of the international community and the planet, the certain outbreak of war and the destruction of territories, homes, and even entire nations. But it is not too late. Not yet.

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